FHA - WEAVER - 4 - 9 - 63

A. GENERAL

(a) (1) All exhibits and plans shall be complete, legible, and understandable.
(2) Care should be exercised in the selection of scale so that all of the information can be shown without congestion.
(3) Lettering should be readable to the extent that no question can be raised as to what is intended.
(4) Engineering scale should be used in all instances.
(5) Prints should be carefully inspected before submission to insure that they are legible.

(b) Each sheet of the exhibits shall have the following information:

(1) Title
(2) Name and Location of Subdivision
(3) Sheet number
(4) Date
(5) Date of Revisions
(6) Name of Designer
(7) Name of Checker
(8) Scale
(9) North Arrow (if appropriate)
(10) Engineer's or Surveyor's Certification and Seal
(11) Key Plans
(12) Legend
(13) Notes

(c) Complete plans should be submitted in sections of not less than one hundred (100) lots unless the total development is composed of less than this number.

(d) Elevation datum shall be "Mean Sea Level" or Conversion Equation furnished whenever possible. This equation shall be shown on each plan where elevations are involved.

B. TOPOGRAPHIC MAP. This exhibit should show:

(a) Boundary lines: bearings and distances.
(b) Streets on and adjacent to the tract: Name, right-of-way width, location, type and width of surfacing, walks, curbs, gutters, culverts, etc.
(c) Utilities on and adjacent to the tract: Location, size, invert elevation of sanitary, storm and/or combined sewers; location of gas lines, fire hydrants, electric and telephone poles, and street lights.
(d) If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to and size of nearest ones.
(e) Contours at appropriate interval to definitely describe the shape, slope, and elevation of the existing ground surface. The elevations should be mean sea level datum or an elevation equation be furnished for converstion.
(f) Subsurface conditions on tract such as location and results of tests for soil, ground water, and percolation for individual sewage disposal systems.
(g) Miscellaneous items to be shown: Water courses, marshes, rock out crop, ground cover and natural growth, existing and proposed land use, improvements, etc.

C. SUBDIVISION PLAT should show the following information:

(a) Right-of-way lines of streets, easements and other rights-of-way, and property lines of residential lots and other sites, with accurate dimensions, bearings and curve data.

(b) Name and right-of-way width of each street or other right-of-way.
(c) Location, dimensions and purpose of any easements.
(d) Number to identify each lot or site.
(e) Purpose for which sites, other than residential lots, are dedicated or reserved.
(f) Minimum building setback line on all lots and other sites.
(g) Location and description of monuments.
(h) Names of record owners of adjoining unplatted land.
(i) Reference to recorded subdivision plats of adjoining platted land by record name, date and number.
(j) Certification by surveyor of engineer.
(k) Statement by owner dedicating streets, rights-of-way and any sites for public uses.
(l) Approval by local authorities.
(m) Title, scale, north arrow and date.

D. PLAN AND PROFILE OF STREETS

(a) The Plan should be drawn to a minimum scale of one inch is equal to one hundred feet and should show the following construction features and information:

(1) Pavement
(2) Curb or Curb and Gutter
(3) Walks
(4) Curb and Gutter Return and Apron Layout at Intersections with Existing Streets
(5) Flowline of street side swales (if any)
(6) Valley Gutters
(7) Detail Layout of Intersections
(8) Street Names
(9) Right-of-Way
(10) Roadway and Right-of-Way Width
(11) Easements (All Proposed Easements should be designated as "Drainage" and "Utility")
(12) Front and Side Lot Lines
(13) Lot Numbers
(14) Minimum Set Back Line
(15) Special Use Sites
(16) Stationing of Starting Point, Ending Point, Street Intersections, high and low points.
(17) North arrow
(18) Any other features proposed or information necessary.

(b) The Profile should be drawn to a scale not less than one inch (1") horizontal equal to one hundred (100) feet and one inch (1") vertical equal to ten feet (10') and show the following:

(1) Original Ground
(2) Finished Grade
(3) Percent of finished grade
(4) Vertical curves and data
(5) Station number and finished grade elevation at beginning, end, each one hundred foot station, intersection, high and low points.
(6) If side street swales, show profile and percent of grades.

E. PLAN AND PROFILE OF SEWERS

(a) The Plan should be drawn to a minimum scale of one inch (1") equal to one hundred feet (100') and should show the following construction features and information necessary to describe and locate the sewers relative to other features of the development such as:

(1) Street Construction Features: Pavement, curb and gutter, walks, intersection returns and aprons, side swales, valley gutters, etc.
(2) Area Information: Street names, right-of-way, easements, lot lines, lot numbers, special use sites, north arrow, etc.
(3) Sewer Layout Showing location and description of: sewers (length, size, kind, slope), manholes, inlet castings, inlets, catch basins, culverts, headwalls, ditches, swales, paved swales, rip-rap, errosion control, identification of sewer runs by letter, number, or both; cross-section of swales and ditches.

(b) The Profile should be drawn to a minimum scale of one inch (1") horizontal equal to one hundred (100') and one inch (1") vertical equal to ten feet (10') and show the following information:

(1) Original ground over sewer
(2) Proposed surface grade over sewer
(3) Type and kind of pipe
(4) Length of sewer run
(5) Slope of sewer run
(6) Invert Elevation each end of sewer run
(7) Manholes or junction structures
(8) Headwalls and aprons
(9) Paved slopes
(10) Identification of sewer runs or junction structures by letter, number, or both (same as plan)

F. DETAILS. This exhibit consists of drawings showing detail design of all construction and structures proposed. The most common are as follows:

(a) Street Cross-Section shall show typical design of street from front lot line to front lot line showing:

(1) Pavement or pavement base and surface
(2) Curb or curb and gutter
(3) Sidewalks
(4) Shoulders
(5) Side ditches or swales
(6) Completely dimensioned and specify type, height of crown and curb
(7) Indicate material

(b) Curb or Curb and Gutter Cross-Section shall be fully dimensioned so that a pattern may be produced therefrom and material be specified.

(c) Sanitary Sewer Structures such as manholes, drop manholes, manhole inverts, house connections, lift stations, sewage disposal systems, specify cast iron covers, fitting, etc.

(d) Storm Sewer Structures such as manholes, inlets, catch basins, inlet castings (showing area of openings), headwalls, rip-rap and/or errosion control, retaining walls, paved slopes, etc.

G. DEVELOPMENT PLAN. This Plan, being the one and only exhibit carried by our inspectors when making offsite inspections, should be complete and reveal all the proposed construction shown on the plans for streets, sanitary sewers, storm sewers, as well as water utilities and general grading design for the area. Due to this plan being composed of all planning, it is

very often advisable to develop it along with, or even before, the previously mentioned plans starting with topographic map, then imposing the accepted plan, and then adding the plans of streets, sewers, etc., and then the grade design of block and lot drainage. The completion of this plan is necessary in order to determine the drainage areas and time of flow of the storm water which will reach a given concentration point (manhole, catch basin or inlet) which, in turn, is necessary to determine the storm sewer size required. This plan is often used for subdivision storm drainage plan by merely adding the boundary lines of individual drainage areas. The following prefatory facts and conditions should be kept in mind when endeavoring to design the general grading of a housing development:

First—the purpose is to provide adequate drainage.

Second—the street (trunk sewer location) provides the primary drainage.

Third—the block drainage swales (in rear and side lot line easements) provide the secondary drainage.

Fourth—the lots must be so graded as to provide positive drainage.

The following procedure should be followed when attempting general grading design:

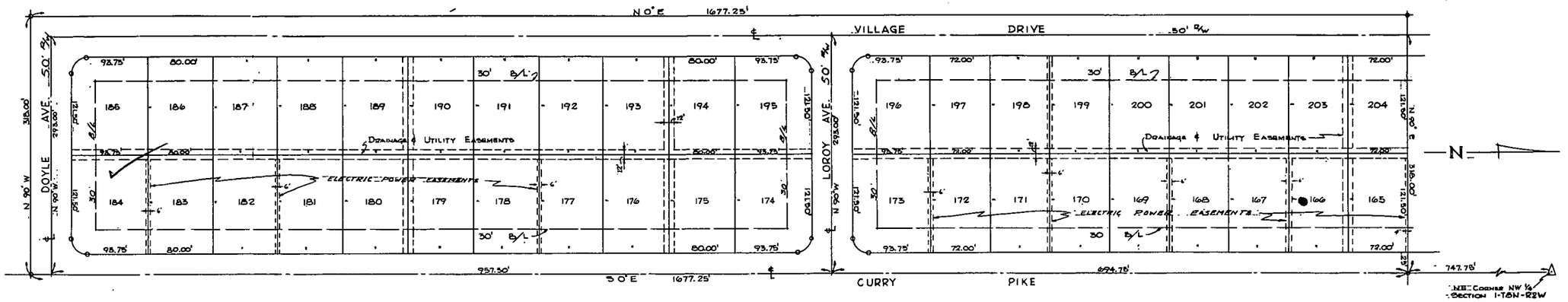
First—finished grade elevations should be established for front lot corners relative to finished grade elevations of street center line, top of curb, or side street swale.

Second—the block drainage (lot line drainage swale) should be established by starting at outfall and design flow line grade elevations. This will establish rear lot corner finished grade elevations.

Third—the lot becomes a grading unit unto itself after the lot corner finished grade elevations have been established by the first and second steps and an adequate outfall has been provided to the front and/or to the rear. The accompanying "Example of Design" sheet sets forth the maximum and minimum grade design requirements as well as illustrates their use.

◦ HIGHLAND VILLAGE ◦ FIFTH ADDITION ◦ MONROE COUNTY, INDIANA ◦

BOOK 005 PAGE 69



LEGAL DESCRIPTION

A part of the Northwest Quarter of Section 1, Township 8 North, Range 2 West, Monroe County, Indiana, being more particularly described as follows:

Beginning at a point in the Center Line of Curry Pike that is S 0° E (Assumed Bearing) 747.75 feet from the Northeast Corner of said Northwest Quarter; thence continuing S 0° E along said Center line 1677.25 feet to a point; thence N 90° W 318.00 feet to a point; thence N 0° E 1677.25 feet to a point; thence E. 90° E 318.00 feet to the point of beginning.

Said tract contains 12.24 acres, more or less, and is subject to all legal hights-of-key and easements.

CERTIFICATES

Under authority provided by Chapter 174 acts of 1947 enacted by the General Assembly of the State of Indiana, and all acts amendatory thereto, this plat was given approval by the County of Monroe as follows:

Approved by the County Plan Commission _____ President _____ Secretary

I, Claude J. Quillen, hereby certify that I am a Professional Engineer licensed in compliance with the laws of the State of Indiana; that this plat correctly represents a survey completed under my supervision that all the monuments shown thereon actually exist; and that the location, size, type and material are accurately shown.

Claude J. Quillen, 19 April 1962
Claude J. Quillen, P.E. #5170

We the undersigned, President and Secretary, respectively, of First Highland Corporation, an Indiana Corporation, owners of the real estate shown and described herein, do hereby certify that we have laid off, platted and subdivided, and do hereby lay off, plat and subdivide, said real estate in accordance with the within plat, and as further amplified by the following restrictive covenants.

This subdivision shall be known and designated as Highland Village, Fifth Addition.

There are strips of ground shown on this plat and marked "Easement", reserved for the use of drainage, public utilities, for the installation of water and sewer mains, poles, ducts, lines and wires, subject at all times to the proper authorities and to the easements herein reserved. No permanent or other structures are to be erected or maintained upon said strips of land, but owners of lots in this subdivision shall take their titles subject to the rights of the public utilities.

No power pole or underground service shall be located within 3 ft. of a corner lot pin.

No lot shall be used except for residential purposes. No building shall be erected, altered, placed or permitted to remain on any lot other than one detached single-family dwelling not to exceed two stories in height and a private garage. No mobile homes or basement dwellings will be permitted in this subdivision.

No dwelling shall be constructed, erected, or relocated to this subdivision unless it shall have a minimum first floor area of 900 square feet for a single story, a minimum floor area of 864 square feet exclusive of the lower of the three levels on a split level; or 750 square feet on the first floor of a two story house. Open porches and breezeways or garages shall not be counted as a part of the minimum floor area.

No residence shall be established or maintained in any manner within this subdivision except in a complete and finished dwellank meeting all the requirements of these restrictions.

No animals, livestock or poultry of any kind shall be raised, bred or kept on any lot except that dogs, cats, or other normally recognized household pets may be kept providing they are not kept, bred or maintained for any commercial purpose.

No material used in the construction of dwellings, attached auxiliary building or detached auxiliary buildings within one half the depth of the lot from the building setback line, shall be used as roofing or siding which is fabricated of one or more materials in such a way as to resemble another material of higher quality and/or better appearance.

No trees shall be planted, set out or preserved within the street right-of-way.

No building, porch, garage, carport, shed, leanto or other structure may be constructed, erected, or maintained closer to the front or side street line than the building setback line shown on the plat nor closer to the side property line than 5 feet except that a structure lying wholly within the rear quarter of the lot shall not require a side lot clearance.

Easements for installation and maintenance of utilities and drainage facilities are reserved as shown on the recorded plat. No planting, wall, building or structure shall be built or maintained in this area; nor shall any vehicular access over the areas be permitted except for the purpose of installation and maintenance of utilities and drainage facilities. The municipal government, or utility, does not assume liability for replacement of grass or plantings in or immediately adjacent to these easements which are damaged or destroyed through maintenance, repair or installation operations.

No residential building shall be erected upon any of said lots unless it contains inside flush toilet. No outside privies are to be erected on any of said lots. All residential buildings shall have garbage disposal units.

The owner of each lot shall be liable for and hereby assumes and agrees to maintain his property neat and clean and free of any paper, trash, weeds or any unsightly growth or other debris. No lot shall be used or maintained as a dumping ground for rubbish; nor shall the lot be used for the open storage of junk or other used materials. Trash, garbage, or other waste shall not be kept in a clean and sanitary condition.

Conveyance of all lots in this addition will be by lot numbers with reference to the plat. Title to each lot shall be subject to the restrictions set forth herein.

There shall be no subdivision of any lot or lots nor any sale thereof in parcels except a portion of a lot may be sold to an adjoining owner if no new lot is created. For the purpose of these conditions and restrictions, all adjoining lots owned by one person and used as a single building site shall be considered one lot.

Protective screening areas are established as shown on the recorded plat. Planting, fences or walls shall be maintained throughout the entire length of such areas by the owner or owners of the lots at their own expense to form an effective screen for the protection of the residential area. No building or structure except a screen, fence or wall or utilities or drainage facilities shall be placed or permitted to remain in such areas. No vehicular access over the areas shall be permitted except for the purpose of installation and maintenance of screening, utilities and drainage facilities.

No continuous fence, hedge or planting shall be erected or maintained beyond the building setback line on any lot.

Every dwelling shall have a 16 feet minimum paved drive from the street to the building setback line or garage, if one is constructed. Residents shall park offstreet on these drives; guests may park on streets.

The right to enforce these provisions by injunction, together with the right to cause the removal, by due process of law, of any structure or part thereof erected or maintained in violation hereof, is hereby dedicated to the public, and reserved to the several owners of the several lots in this subdivision and to their heirs and assigns.

Witness our hands and Seals this 29th day of May, 1962.

Attest:
D. L. Johnson, Secretary

FIRST HIGHLAND CORPORATION:
By Roy P. Wilson, President

STATE OF INDIANA) SS:
COUNTY OF MONROE)

Before me, the undersigned, a Notary Public in and for said County and State, this 29th day of May, 1962, personally appeared Roy P. Wilson and D.L. Johnson, to me well known and by me known to be the President and Secretary, respectively, of FIRST HIGHLAND CORPORATION, and Indiana corporation, and for and on behalf of said corporation acknowledged and execution of the foregoing Plat.

WITNESS my hand and official seal.

Notary Public

My Commission expires: May 2, 1966

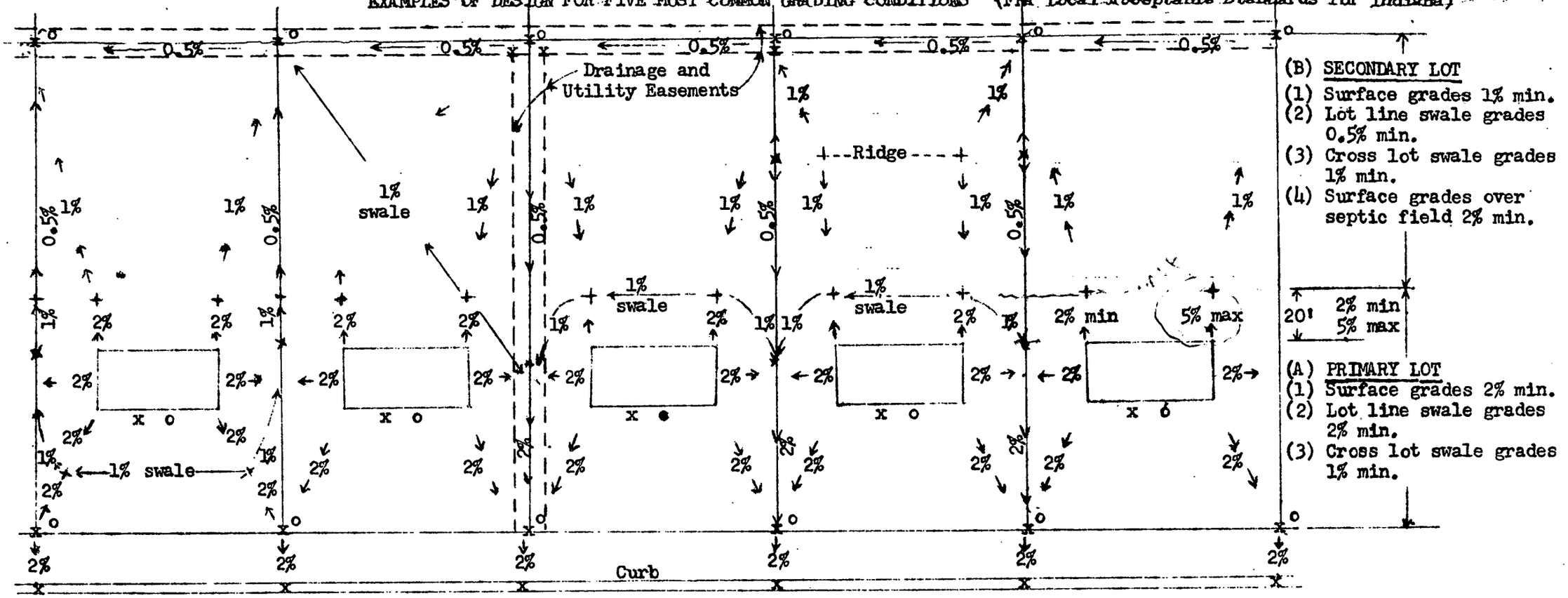
NOTES:

1. All radii of property line at street corners are 20 feet.
2. All angles not shown are 90 degrees or multiple thereof.
3. The symbol ○ is used to show points at which permanent monuments will be installed; said monuments will be steel pipe 1 inch diameter and 30 inches long surrounded by not less than one half cubic foot of concrete, shall be installed by a registered land surveyor qualified to practice land surveying in Indiana.
4. All lot lines not specifically shown otherwise, intersects street centerline at 90 degree angles.
5. The intersection of street centerlines, boundery property lines, or any one with the other form 90 degree angles or multiple thereof unless shown thereof.
6. Dimensions on corner lots are to the lot lines extended on rounded corners.

Duly entered for taxation this 1st day of June 1962
Jan 6400
Rodney I. Brown
Auditor Monroe County

RECORDED
At 3:45 O'clock P.M.
JUN 6 1962
Ruth Poling
RECORDER MONROE CO., IND.

EXAMPLES OF DESIGN FOR FIVE MOST COMMON GRADING CONDITIONS (FHA Local Acceptable Standards for Indiana)



NOTES:

1. → = % & Direction of surface grade as indicated. (Not to be shown on Development Plan)
2. ⟶ = % & Direction of swale grade as indicated.
3. x = Finished grade elevations.
4. o = Original grades if contours are not shown.
5. All grade % are minimum unless designated maximum.
6. The use of arrows should be limited to showing water carrying swales.
7. 6" fall is required away from house in all directions.
8. Inasmuch as earth work tolerances are reckoned in tenths of feet, lot and block drainage designed elevations should be shown thus.
9. Literal meaning should be given to "Maximum" & "Minimum" and elevations should not be shown to nearest tenth but the next largest.
10. Storm water should not be allowed to flow from one lot or area to another lot or area.
11. If contours are not shown on plan, original ground elevations must be shown at each lot corner and at house.
12. Maximum grade from rear of house to 20' to rear of house & for drives (used as walk to street) is 5%. Maximum drive grade (not used as walk to street) is 14%.
13. Primary side lot line swale grade may be reduced to 1% min. if houses are shown and dimensioned 15' from centerline of swale.
14. 2' is maximum for granular fill under concrete floor slab.

STORM DRAINAGE DESIGN INFORMATION

The following information is set forth in order that the designing engineer may have a better understanding of how his plans will be analyzed by the Federal Housing Administration. Much time, effort, and expense will be saved by all concerned if the plans submitted are accurate and complete. Although the topographic map, plans, and profiles of streets and storm sewers, general grading (development) plan and details all contribute to the required drainage information necessary for design and analysis, they will be discussed in detail under our "Outline of Exhibits Required" and only the storm drainage plan will be discussed at this point.

A. THE STORM DRAINAGE PLAN should be composed of two exhibits; first, general drainage plan showing drainage that comes to the proposed area, and secondly, the subdivision drainage plan. The following is an outline of the most common information to be shown on these two plans.

(a) GENERAL DRAINAGE PLAN: This plan should reflect all of the features that contribute to the amount, concentration, and routing of the storm water that comes to the subject area such as:

(1) Streams, ditches, sewers, bridges, culverts, and overland flows.
(2) Drainage area and slope for each concentration point at subdivision boundary.
(3) Type of soil, ground cover, physical features that would contribute quick runoff such as large buildings, paved areas, urban or suburban developments, etc.
(4) Profiles and typical sections of ditch or stream if report from Indiana Flood Control is required by this office.
(5) Land line location so that it may be located on geologic topographic map.
(6) Elevation datum equation if other than mean sea level.

Very often, if the contour interval is satisfactory, a USGS map with supplemented exhibits may be used for this plan, otherwise a prepared exhibit will be required.

(b) SUBDIVISION DRAINAGE PLAN: This plan should include the following information shown on an accurate layout of the streets and lots drawn to a minimum on scale of one (1) inch equals one hundred (100) feet.

(1) Street names.
(2) Lot number.
(3) Layout of proposed and existing storm sewers, showing inlets; catch basins; manholes; special inlet castings; headwalls; special structures; length, size, slope and kind of each run of pipe,
(4) The street profile shall be indicated by arrows with percent of grade; also, proposed finished grade elevation should be shown at high, low, street intersections, and at grade change points.
(5) The Block Drainage (rear lot drainage swale) should be indicated by arrows showing route of flow with finished grade elevations at high point and at outfall. Contours and finished grade elevation at house would be an advantage.
(6) Any proposed or existing open ditch or swale other than block drainage should be indicated by arrows with percent of slope and small scale cross-section for each point of necessary section change. Proposed easement should also be shown.

(7) The area draining to each concentration point (inlets, manholes) should be layed out according to the general grading (development) plan reflecting the high point in street, block drainage swale and lot grading design.
(8) Ground Water Table should be indicated at pertinent locations if there is any question as to it being higher than eight (8) feet below finished grade elevation at house.
(9) Designation of concentration points should be made so that each pipe run may be described. These identifications should be the same as used on the plans and profiles for storm sewers.

B. STORM DRAINAGE DESIGN will be examined on the following basis:

(a) Sizing of sewers and open drainage channels accomodating area within development will be based on "one hour-five year rainfall curve".
(b) The method used will be the Rational Method Formula -- Q equals ACI, where "Q" equals peak discharge of watershed in cubic feet per second; "A" equals Area of Watershed in acres; "C" equals coefficient of runoff; and "I" equals Intensity of rainfall in inches per hour and based on time of concentration. Time of Concentration for overland flow and Intensity will be determined by Overland Flow Time Chart, Figure H, and Rainfall Intensity curve, Figure J, of "Design" (Data Book for Civil Engineers) by Elwyn E. Seelye published by John Wiley & Sons, Inc., New York, N.Y.
(c) (Sewer or Channel Design) Manning Formular (Running full)

$Q = AV = A = \frac{1.486}{n} \times R^{2/3} \times S^{1/2}$. Q equals sewer or channel capacity (ft/sec); A equals cross-section area of conduit or channel (sq ft); "n" equals coefficient or roughness; R equals hydraulic radius equals $\frac{\text{area of section}}{\text{wetted perimeter}}$; S equals slope in feet per foot; and V equals velocity in feet per second. The roughness factors "n" used in different instances are:

(1) For concrete or vitrified clay pipes -- n = 0.013
(2) Corrigated metal pipe -- n = 0.021
(3) Corrigated metal pipe bituminous coated with 25% paved invert -- n = 0.019
(4) Corrigated metal pipe bituminous coated with 40% paved invert -- n = 0.017
(5) Improved earth open channel -- n = 0.035

C. FHA LOCAL ACCEPTABLE STANDARDS REQUIREMENTS AND INFORMATION

(a) Minimums

(1) Storm sewers twelve (12) diameter.
(2) Culverts under roadway fifteen (15) inch diameter.
(3) Culverts under driveway twelve (12) inch diameter.
(4) Paved gutter grade -- 0.25%.
(5) Roadside ditch or swale grade -- 0.5%.
(6) Block drainage swale -- 0.5%.
(7) Four cubic foot volume for storm sewer inlet structures.
(8) Ten (10) foot drainage and utility easement.
(9) Four (4) inch cushion between top of sewer pipe and bottom concrete pavement.
(10) Eight (8) inch cushion between top of sewer pipe and bottom of aggregate base for flexible type pavement.

The above are not to be construed as recommended design, but as "not less than" items.

(b) Maximums: Side slopes of ditches or swales within proposed development shall not be more than three feet horizontal to one foot vertical (3:1). Flatter slopes are recommended where possible.

(c) Requirements:

(1) All drainage pipes and channels serving more than one or adjacent lots shall be in dedication or easement.
(2) Inlet-type storm structures shall not be connected directly in to trunk sewer or manhole, but shall be connected to sediment-type catch basin and thence to manhole.
(3) Sewer crown elevation of pipes outfalling at a manhole or junction box shall not be lower than that of the outlet sewer.
(4) All inlet connecting pipes shall have a minimum capacity of 1.5 cubic feet per second.
(5) All inlet connecting pipes shall be a minimum of 15" if carrying drainage from two or more inlets.

LOCAL ACCEPTABLE STANDARD OF STORM DRAINAGE COMPUTATION FOR FEDERAL HOUSING ADMINISTRATION IN INDIANA

SUBDIVISION:

Effective Jan 1, 1962

Concentration Point	Sewer		Area (Acres)		Run Off Coeff	Flow Time						Total Conc. Time	(I)		(CA)	Discharge	Proposed Design					Required Design					Invert El		Design		Typ Lot C= Typ Front Lot "C"= Typ Rear Lot "C"=
	From	To	Increment	Total Acres		Overland Distance Ft	Overland Time Min	Gutter Distance Ft	Gutter Time Min	Section Distance Ft	Section Time Min	Min	Intensity	Increment CA	Total CA	Q CFS	Channel or Pipe Size	Slope ft/ft	"n" R. Coeff	Capacity C.F.S.	V ft/sec	Channel or Pipe Size	Slope ft/ft	"n" R.Coeff	Capacity ft/sec	V ft/sec	Up End	Low End	Over	Under	Remarks

Form - 1. FHA No. 1

COMPUTATION OF RUN-OFF COEFFICIENT "C"

TYPICAL LOT AREA = Width— X Length (Street ℄ to Rear Lot Line) = sqft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-off	Coeff	Increment "C"
Street Pavement			Paved Aggregate	(0.90) (0.65)	
Roof.			Splash Blks Sewer	(0.75) (0.90)	
Driveway			Paved Aggregate	(0.75) (0.65)	
Walks				(0.50)	
Misc Areas					
Pervious Area			Sand Clay	(0.20) (0.30)	
TOTAL					

TYPICAL FRONT LOT AREA = Width— X Length (Street ℄ to Center of House) = sq ft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-Off	Coeff	Increment "C"
Street Pavement			Paved Aggregate	(0.90) (0.65)	
Roof			Splash Blks Sewers	(0.75) (0.90)	
Driveway			Paved Aggregate	(0.75) (0.65)	
Walks				(0.50)	
Misc Area					
Pervious Area			Sand Clay	(0.20) (0.30)	
TOTAL					

TYPICAL REAR LOT AREA = Width— X Length (Center of House to rear lot line) = sq ft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-off	Coeff	Increment "C"
Roof			Splash Blks Sewer	(0.75) (0.90)	
Paved Areas					
Pervious Area			Sand Clay	(0.20) (0.30)	
TOTAL					

NOTE: 1. Run-off coefficient for soils with classification between sand and clay may be used if representative soil logs showing classification are submitted.

2. If roof down spouts are connected directly to storm sewers, the total roof area should be included in either front or rear lot area, whichever is proper.

Highland Village Sub # 2500 Bloomington

LOCAL ACCEPTABLE STANDARD OF STORM DRAINAGE COMPUTATION FOR FEDERAL HOUSING ADMINISTRATION IN INDIANA

SUBDIVISION:

Effective Jan 1, 1962

Typ Lot C= 0.41
Typ Front Lot "C"= 0.54
Typ Rear Lot "C"= 0.34

Concentration Point	Sewer From	Sewer To	Area (Acres) Increment	Area (Acres) Total Acres	Run Off Coeff	Flow Time: Overland Distance Ft	Overland Time Min	Gutter Distance Ft	Gutter Time Min	Section Distance Ft	Section Time Min	Total Conc. Time Min	(I) Intensity	Increment CA	(CA) Total CA	Discharge Q CFS	Proposed Design: Channel or Pipe Size	Slope ft/ft	"n" R. Coeff	Capacity C.F.S.	V ft/sec	Required Design: Channel or Pipe Size	Slope ft/ft	"n" R.Coeff	Capacity ft/sec	V ft/sec	Invert El: Up End	Low End	Design: Over	Under	Remarks
1-2	1-2	1-3	2.9	2.9	.43	140 2%	15.5	250 0.87	1			17	3.5	1.25	1.25	4.4	250 15	.017	.013	8.4	6.8								4.0		
1-3	1-3	1-4	2.1	5.0	.40	400 1.6	24					24	3.1	.84	2.09	6.5	320 18	.024	11	16.2	9.2								9.7		
1-4	1-4	1-5	2.5	7.5	.41						35"	25	3.0	1.03	3.12	9.4															
2-3	2-3	2-4	3.1	3.1	.43	320 1.2	23		1			24	3.1	1.34	1.34	4.2	184 18	.003	11	5.9	3.4								1.7		
2-4	2-4	2-5	1.0	4.1	.34						40"	24	3.1	.34	1.68	5.2	139 18	.003	11	5.9	3.4								0.7		
3-2	3-2	3-3	3.6	3.6	.47	280 1.2	20	590 0.86	5			25	3.0	1.69	1.69	5.1	250 18	.0108	11	11.0	6.2								6.9		
3-3	3-3	3-4	2.4	6.0	.35					40"		26	3.0	0.84	2.53	7.6	12 21	.017	"												
4-2	4-2	4-5	4.9	4.9	.47	320 1.0	24		1			25	3.0	2.3	2.3	6.9	250 18	.017	11	13.8	7.8								6.9		
4-5	4-5	4-6	1.6	6.5	.44					32"		26	3.0	0.7	3.0	9.0	160 21	.0065	11	12.9	5.4										

Form - 1. FHA No. 1

COMPUTATION OF RUN-OFF COEFFICIENT "C"

TYPICAL LOT AREA = Width— 80 X Length (Street ℄ to Rear Lot Line) 145 = 11600 sqft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-off	Coeff	Increment "C"
Street Pavement 15.5 X 80	1240	.107	Paved Aggregate	(0.90) (0.65)	.096
Roof. 25X40	500	.043	Splash Blks Sewer	(0.75) (0.90)	.032
Driveway 65X10	650	.056	Paved Aggregate	(0.75) (0.65)	.037
Walks	200	.017		(0.50)	.009
Misc Areas					
Pervious Area	9010	.774	Sand Clay	(0.20) (0.30)	.236
TOTAL	11,600	1000			.410 ~ use 0.41

TYPICAL FRONT LOT AREA = Width—80 X Length (Street ℄ to 65' Center of House) = 5200 sq ft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-Off	Coeff	Increment "C"
Street Pavement 15.5X80	1240	.239	Paved Aggregate	(0.90) (0.65)	0.215
Roof 12.5X40	500	.096	Splash Blks Sewers	(0.75) (0.90)	0.072
Driveway 65X10	650	.125	Paved Aggregate	(0.75) (0.65)	0.081
Walks	200	.038		(0.50)	0.019
Misc Area					
Pervious Area	2610	.502	Sand Clay	(0.20) (0.30)	0151
TOTAL	5200	1,000			.538

TYPICAL REAR LOT AREA = Width— 80 X Length (Center of House 80 to rear lot line) = 6400 sq ft

Area Description	Area Sq Ft	Part of Total Area	Increment Run-off	Coeff	Increment "C"
Roof 12.5 X40	500	.078	Splash Blks Sewer	(0.75) (0.90)	0.058
Paved Areas					
Pervious Area	5900	.922	Sand Clay	(0.20) (0.30)	0 277
TOTAL	6400	1000			0.335 use 0.34

NOTE: 1. Run-off coefficient for soils with classification between sand and clay may be used if representative soil logs showing classification are submitted.

2. If roof down spouts are connected directly to storm sewers, the total roof area should be included in either front or rear lot area, whichever is proper.

HIGHLAND VILLAGE 7TH ADD.

CURVE DATA				
NO.	ANGLE	TANG.	RAD.	LENGTH
1	90-00	175.	175	
2	90-00	200	200	
3	90-00	225.	225	
4	90-00	175	175	
5	90-00	200	200	
6	90-00	225	225	
7	35.00	109.20	346.42	
8	35.00	125.00	396.42	
9	12.58	209.6	1980	
10	12.58	1995	179 980	

SCALE 1" = 100'
B.L.=30' BUILDING LINE
U.S.=12' UTILITY STRIP
ALL COR. RADII = 15 FT. RAD.

APPROVED:-MONROE COUNTY PLAN COMMISSION

PRESIDENT

SECRETARY

I, JOHN T. STAPLETON, a licensed Civil Engineer in the State of Indiana, to hereby certify that the plat shown hereon is a true representation of HIGHLAND VILLAGE 7TH ADDITION, the same being a subdivision of a part of the West half of Section 1, Township 8 North, Range 2 West, in Monroe County, Indiana, bounded and described as follows, to-wit: Beginning at a point that is 1217.50 feet South and 854.0 feet West of the Northeast corner of the said West one-half of said Section 1; thence running East for 347.30 feet; thence running South 38 degrees-43 minutes-31 seconds East for 78.98 feet; thence running South for 648.00 feet; thence running South 29 degrees-02 minutes-38 seconds East for 73.21 feet; thence running South 14 degrees-17 minutes-36 seconds West for 152.25 feet; thence running South 78 degrees-19 minutes East for 14.00 feet; thence running South 9 degrees-05 minutes-46 seconds West 129.46 feet; thence running South for 300 feet; thence running North 61 degrees-41 minutes West for 195.00 feet; thence running North 35 degrees-57 minutes West for 188.00 feet; thence running South 55 degrees-14 minutes West for 26.40 feet; thence running North 12 degrees-58 minutes West for 486.43 feet; thence running North for 806.93 feet and to the place of beginning. Containing in all 11.89 acres, more or less.

John T. Stapleton, Licensed Civil Engineer